



Purchasing Department

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The Washington Elementary School District is committed to achieving excellence for every child, every day, every opportunity.

**AMENDMENT NO. FIVE (#5)
BID 22.030
VENTILATION IMPROVEMENTS MULTI-SITE**

Submittal Due Date: ~~Wednesday, November 23, 2022~~, at 2:00 PM Local Time

This Amendment supplements and amends the original BID and shall be taken into account in submittals. The Bidder must take careful note of this Amendment.

Bidder should submit a signed copy of this Amendment to the Washington School District Purchasing Department prior to the submittal due date and time, preferably with your properly marked Bid package. It may also be submitted in a separate sealed envelope, plainly marked with the BID number and title (Ventilation Improvements Multi-Site).

COMPANY NAME

SIGNATURE

DATE

This BID is amended as follows:

A. DUE DATE CHANGE

From Wednesday, November 23, at 2:00 PM Local Time to:
Monday, November 28, at 2:00 PM Local Time.

B. SCOPE UPDATE

In relation to Amendment Four (#4) which listed the following:

1. Are all units required to have 10 short circuit current rating (SCCR)?
Yes, all units are required to have 10 SCCR ratings. Note: not all units are 10 SCCR as currently listed on the mechanical drawings. It looks like the information is already on the electrical drawings, bidders need to make sure the mechanical contractor and equipment bidders are made aware to look at the values on sheet E7.2 of Desert Foothills and E7.2 of Lakeview. The unit has to be rated for the fault current available. This can be accomplished by the unit rating, or the unit rating with the provision “when protected upstream by calss type fuses” would be an RK5, J or other, is defined by the manufacturer. They key is that the manufacturer lists their unit ratings per testing done under the requirements of UL.

Please note the following SCCR color coded legend on page 2 and the tables on page 3 and page 4.

COLOR CODED LEGEND

- Lakeview RTU equipment

Red units need to be provided with a minimum SCCR of 5K rating

Yellow units need to be provided with SCCR of a minimum of 10K Rating

Blue Units need to be provided with a minimum of 65k rating

- Desert Foothills RTU equipment

Red units need to be provided with a minimum SCCR of 5K rating

Yellow units need to be provided with SCCR of a minimum of 10K Rating

Blue Units need to be provided with a minimum of 65k rating

Short Circuit Calculation Ratings for (Desert Foothills HVAC Replacement)

The following calculations are based on the "Point-by Point" method where:

$$I_{sc} = I_{sc} \times M$$

$$f(3\phi) = \frac{1.732 \times L \times I}{C \times n \times E}$$

$$M = \frac{1}{(1+f)}$$

$$f(1\phi) = \frac{2 \times L \times I}{C \times n \times E}$$

$$XFMR(3\phi) = \frac{IP(sca) \times V_p \times 1.732 \times \%Z}{100,000 \times KVA}$$

$$IP(sca) = \frac{IP(sca) \times V_p \times \%Z}{100,000 \times KVA}$$

$$IS(sca) = \frac{V_p \times M \times IS(sca)}{V_s}$$

Fault Point	Panel or Transformer	Source (F.P.)	Source I(Amps)	Conduit Type	Wire / Size		Wire/Bus Type	"C" Value	"E" Volts	PHASE (ø)	"L" Length	XFMR (KVA)	XFMR (%Z)	f (value)	M (value)	ISC rating
1	SES-MAIN		65,000													35,000
2	SWB H	1	35000	M	3	Set(s) of 600	CU	22965	480	3	360			0.6599	0.6024	21,085
3	HA	1	35000	M	1	Set(s) of 4/0	CU	15082	480	3	30			0.2512	0.7992	27,973
4	HB	1	35000	M	1	Set(s) of 4/0	CU	15082	480	3	316			2.6462	0.2743	9,599
5	DBC	1	35000	M	2	Set(s) of 350	CU	19704	480	3	490			1.5704	0.3891	13,617
6	HZA	5	13617	M	1	Set(s) of 4/0	CU	15082	480	3	25			0.0814	0.9247	12,591
7	RTU-4TON-B109-CLASSROOM	2	21085	M	1	Set(s) of 4	CU	3806	480	3	50			0.9995	0.5001	10,545
8	RTU-4TON-B104A-CLASSROOM	2	21085	M	2	Set(s) of 4	CU	3806	480	3	115			1.1495	0.4652	9,809
9	RTU-4TON-B111-CLASSROOM	2	21085	M	1	Set(s) of 3	CU	4774	480	3	78			1.2431	0.4458	9,400
10	RTU-4TON-B112-CLASSROOM	2	21085	M	1	Set(s) of 4	CU	3806	480	3	125			2.4988	0.2858	6,026
11	RTU-34ON-B114-CLASSROOM	2	21085	M	1	Set(s) of 3	CU	4774	480	3	155			2.4703	0.2882	6,076
12	RTU-4TON-B115-CLASSROOM	2	21085	M	1	Set(s) of 3	CU	4774	480	3	211			3.3628	0.2292	4,833
13	RTU-4TON-B118A-SCIENCE	2	21085	M	1	Set(s) of 4	CU	3806	480	3	223			4.4579	0.1832	3,863
14	RTU-4TON-B126-CLASSROOM	2	21085	M	1	Set(s) of 4	CU	3806	480	3	65			1.2994	0.4349	9,170
15	RTU-4TON-B127-CLASSROOM	2	21085	M	1	Set(s) of 4	CU	3806	480	3	55			1.0995	0.4763	10,043
16	RTU-4TON-A-SOUTH ADMIN	3	27973	M	1	Set(s) of 3	CU	4774	480	3	85			1.7972	0.3575	10,000
17	RTU-4TON-A-MAINT	3	27973	M	1	Set(s) of 3	CU	4774	480	3	28			0.5920	0.6281	17,571
18	RTU-4TON-B107-WORKROOM	2	21085	M	1	Set(s) of 4	CU	3806	480	3	33			0.6597	0.6025	12,704
19	RTU-4TON-B113-WORKROOM	2	65000	M	1	Set(s) of 6	CU	4774	480	3	131			6.4361	0.1345	8,741
20	RTU-4TON-B124A-SCIENCE	2	21085	M	1	Set(s) of 3	CU	4774	480	3	135			2.1515	0.3173	6,690
21	RTU-4TON-B125-WORKROOM	2	21085	M	1	Set(s) of 4	CU	3806	480	3	130			2.5988	0.2779	5,859
22	RTU-4TON-B-CORR W	2	21085	M	1	Set(s) of 3	CU	4774	480	3	146			2.3268	0.3006	6,338
23	RTU-4TON-B-CORR W	2	21085	M	1	Set(s) of 3	CU	4774	480	3	87			1.3865	0.4190	8,835
24	RTU-4TON-C201-CLASSROOM	6	12591	M	1	Set(s) of 4	CU	3806	480	1	90			1.2406	0.4463	5,620
25	RTU-4TON-C202-CLASSROOM	6	12591	M	1	Set(s) of 4	CU	3806	480	1	70			0.9649	0.5089	6,408
26	RTU-4TON-C203-CLASSROOM	6	12591	M	1	Set(s) of 4	CU	3806	480	3	65			0.7759	0.5631	7,090
27	RTU-4TON-C204-CLASSROOM	6	12591	M	1	Set(s) of 4	CU	3806	480	3	90			1.0744	0.4821	6,070
28	RTU-4TON-C205-CLASSROOM	6	12591	M	1	Set(s) of 8	CU	1557	480	3	70			2.0427	0.3287	4,138
29	RTU-4TON-C206-CLASSROOM	6	12591	M	1	Set(s) of 8	CU	1557	480	3	40			1.1672	0.4614	5,810
30	RTU-4TON-D115-CLASSROOM	4	9599	M	1	Set(s) of 4	CU	3806	480	3	93			0.8464	0.5416	5,199
31	RTU-5TON-B101-CLASSROOM	2	21085	M	1	Set(s) of 4	CU	3806	480	3	38			0.7596	0.5683	11,983
32	RTU-5TON-B102-CLASSROOM	2	21085	M	1	Set(s) of 4	CU	3806	480	3	75			1.4993	0.4001	8,436
33	RTU-5TON-B110-WORKROOM	2	21085	M	1	Set(s) of 3	CU	4774	480	3	127			2.0240	0.3307	6,973
34	RTU-5TON-B116-CLASSROOM	2	21085	M	1	Set(s) of 3	CU	4774	480	3	114			1.8168	0.3550	7,485
35	RTU-5TON-B117A-SCIENCE	2	21085	M	1	Set(s) of 4	CU	3806	480	3	250			4.9977	0.1667	3,516
36	RTU-5TON-B117B-SCIENCE	2	21085	M	1	Set(s) of 4	CU	3806	480	3	274			5.4774	0.1544	3,255
37	RTU-5TON-B118B-SCIENCE	2	21085	M	1	Set(s) of 4	CU	3806	480	3	230			4.5979	0.1786	3,767
38	RTU-5TON-B121-WORKROOM	2	21085	M	1	Set(s) of 3	CU	4774	480	3	186			2.9643	0.2522	5,319
39	RTU-5TON-B124B-SCIENCE	2	21085	M	1	Set(s) of 3	CU	4774	480	3	145			2.3109	0.3020	6,368
40	RTU-5TON-B128A-SCIENCE	2	21085	M	1	Set(s) of 3	CU	4774	480	3	170			2.7093	0.2696	5,684
41	RTU-5TON-B128B-SCIENCE	2	21085	M	1	Set(s) of 3	CU	4774	480	3	150			2.3906	0.2949	6,219
42	RTU-5TON-B131-CLASSROOM	2	21085	M	1	Set(s) of 4	CU	3806	480	3	100			1.9991	0.3334	7,031
43	RTU-5TON-B132-CLASSROOM	2	21085	M	1	Set(s) of 4	CU	3806	480	3	55			1.0995	0.4763	10,043
44	RTU-5TON-B135-CLASSROOM	2	21085	M	1	Set(s) of 3	CU	4774	480	3	55			0.8765	0.5329	11,236
45	RTU-5TON-B136-CLASSROOM	2	21085	M	1	Set(s) of 3	CU	4774	480	3	90			1.4344	0.4108	8,661
46	RTU-5TON-B137-CLASSROOM	2	21085	M	1	Set(s) of 4	CU	3806	480	3	100			1.9991	0.3334	7,031
47	RTU-5TON-B138-CLASSROOM	2	21085	M	1	Set(s) of 3	CU	4774	480	3	158			2.5181	0.2842	5,993
48	RTU-5TON-B139-CLASSROOM	2	21085	M	1	Set(s) of 3	CU	4774	480	3	140			2.2312	0.3095	6,525
49	RTU-5TON-B142-CLASSROOM	2	21085	M	1	Set(s) of 4	CU	3806	480	3	160			3.1985	0.2382	5,022
50	RTU-5TON-C200-CORRIDOR	6	12591	M	1	Set(s) of 6	CU	2425	480	3	75			1.4052	0.4158	5,235
51	RTU-5TON-D101A-KITCHEN	3	27973	M	1	Set(s) of 6	CU	2425	480	3	75			3.1218	0.2426	6,787
52	RTU-5TON-D101B-KITCHEN	3	27973	M	1	Set(s) of 6	CU	2425	480	3	80			3.3299	0.2310	6,460
53	RTU-5TON-D106A	4	9599	M	1	Set(s) of 6	CU	2425	480	3	80			1.1427	0.4667	4,480
54	RTU-5TON-D116-CLASSROOM	4	9599	M	1	Set(s) of 4	CU	3806	480	3	110			1.0011	0.4997	4,797
55	RTU-7.5TON-A-NORTH-ADMIN	3	27973	M	1	Set(s) of 10	CU	981	480	3	35			3.6013	0.2173	6,079
56	RTU-7.5TON-B103-CLASSROOM	2	21085	M	1	Set(s) of 3	CU	4774	480	3	20			0.3187	0.7583	15,989
57	RTU-7.5TON-B104B-CLASSROOM	2	21085	M	1	Set(s) of 3	CU	4774	480	3	60			0.9562	0.5112	10,778
58	RTU-7.5TON-B106B-CLASSROOM	2	21085	M	1	Set(s) of 3	CU	4774	480	3	90			1.4344	0.4108	8,661
59	RTU-7.5TON-B122-SCIENCE	2	21085	M	1	Set(s) of 3	CU	4774	480	3	200			3.1875	0.2388	5,035
60	RTU-7.5TON-B123-SCIENCE	2	21085	M	1	Set(s) of 3	CU	4774	480	3	160			2.5500	0.2817	5,940
61	RTU-7.5TON-C211-COMPUTER CLASSROOM	6	12591	M	1	Set(s) of 6	CU	2425	480	1	30			0.6490	0.6064	7,636
62	RTU-7.5TON-D106B	4	9599	M	1	Set(s) of 6	CU	2425	480	1	55			0.9071	0.5243	5,033
63	RTU-7.5TON-D111	4	9599	M	1	Set(s) of 4	CU	3806	480	3	50			0.4550	0.6873	6,597
64	RTU-8.5TON-A-CENTER-ADMIN	3	27973	M	1	Set(s) of 3	CU	4774	480	3	85			1.7972	0.3575	10,000
65	RTU-15TON-D105A-CAFETERIA	3	27973	M	1	Set(s) of 6	CU	2425	480	3	120			4.9949	0.1668	4,668
66	RTU-15TON-D105B-CAFETERIA	3	27973	M	1	Set(s) of 6	CU	2425	480	3	160			6.6598	0.1306	3,652

Short Circuit Calculation Ratings for (Lakeview)

The following calculations are based on the "Point-by Point" method where:

$$I_{sc} = I_{sc} \times M$$

$$f(3\phi) = \frac{1.732 \times L \times I}{C \times n \times E}$$

$$XFMR(3\phi) = \frac{IP(sca) \times V_p \times 1.732 \times \%Z}{100,000 \times KVA}$$

$$IS(sca) = \frac{V_p \times M \times IS(sca)}{V_s}$$

$$M = \frac{1}{(1+f)}$$

$$f(1\phi) = \frac{2 \times L \times I}{C \times n \times E}$$

$$XFMR(1\phi) = \frac{IP(sca) \times V_p \times \%Z}{100,000 \times KVA}$$

Fault Point	Panel or Transformer	Source (F.P.)	Source I(Amps)	Conduit Type	Wire / Size	Wire/Bus Type	"C" Value	"E" Volts	PHASE (ø)	"L" Length	XFMR (KVA)	XFMR (%Z)	f (value)	M (value)	ISC rating
1	SES-MAIN		65,000												65,000
2	DP-1	1	65000	M	3	Set(s) of 600	CU	22965	208	3	1		0.0079	0.9922	64,493
3	H	2	64493	M	1	Set(s) of 3/0	CU	12844	208	3	10		0.4181	0.7052	45,478
4	K	2	64493	M	1	Set(s) of 3/0	CU	12844	208	3	300		12.5439	0.0738	4,762
9	DP2	1	65000	M	3	Set(s) of 600	CU	22965	208	3	214		1.6813	0.3730	24,242
10	DP3	9	24242	M	2	Set(s) of 350	CU	19704	208	3	5		0.0256	0.9750	23,637
13	A	10	23637	M	1	Set(s) of 1	CU	7293	208	3	10		0.2699	0.7875	18,613
14	B	10	23637	M	1	Set(s) of 1	CU	7293	208	3	10		0.2699	0.7875	18,613
26	RTU-2TON-NURSE	14	18613	M	1	Set(s) of 10	CU	981	208	1	160		25.2798	0.0381	708
27	RTU-2TON-RM26	14	18613	M	1	Set(s) of 4	CU	3806	208	1	50		2.0362	0.3294	6,130
28	RTU-3TON-RM13	14	18613	M	1	Set(s) of 10	CU	981	208	3	150		23.6998	0.0405	754
29	RTU-3TON-WORKROOM	14	18613	M	1	Set(s) of 10	CU	981	208	3	115		18.1698	0.0522	971
30	RTU-4TON-CORR E	14	18613	M	1	Set(s) of 10	CU	981	208	3	110		17.3798	0.0544	1,013
31	RTU-4TON-CORR W	14	18613	M	1	Set(s) of 10	CU	981	208	3	100		15.7999	0.0595	1,108
32	RTU-4TON-OFFICE	14	18613	M	1	Set(s) of 10	CU	981	208	3	130		20.5398	0.0464	864
33	RTU-5TON-LIBRARY	14	18613	M	1	Set(s) of 6	CU	2425	208	3	170		10.8657	0.0843	1,569
34	RTU-5TON-RM10	14	18613	M	1	Set(s) of 6	CU	2425	208	3	240		15.3399	0.0612	1,139
35	RTU-5TON-RM11	14	18613	M	1	Set(s) of 4	CU	3806	208	3	170		6.9231	0.1262	2,349
36	RTU-5TON-RM27	14	18613	M	1	Set(s) of 4	CU	3806	208	3	108		4.3982	0.1852	3,448
37	RTU-5TON-RM12	14	18613	M	1	Set(s) of 4	CU	3806	208	3	210		8.5521	0.1047	1,949
38	RTU-5TON-RM15	13	18613	M	1	Set(s) of 4	CU	3806	208	3	100		4.0724	0.1971	3,670
39	RTU-5TON-RM16	13	18613	M	1	Set(s) of 4	CU	3806	208	3	124		5.0498	0.1653	3,077
40	RTU-5TON-RM20	13	18613	M	1	Set(s) of 4	CU	3806	208	3	110		4.4797	0.1825	3,397
41	RTU-5TON-RM22	13	18613	M	1	Set(s) of 4	CU	3806	208	3	130		5.2942	0.1589	2,957
42	RTU-5TON-RM28	13	18613	M	1	Set(s) of 4	CU	3806	208	3	90		3.6652	0.2144	3,990
43	RTU-5TON-RM29	13	18613	M	1	Set(s) of 4	CU	3806	208	3	60		2.4435	0.2904	5,405
44	RTU-5TON-RM30	13	18613	M	1	Set(s) of 4	CU	3806	208	3	60		2.4435	0.2904	5,405
45	RTU-5TON-RM31	13	18613	M	1	Set(s) of 4	CU	3806	208	3	40		1.6290	0.3804	7,080
46	RTU-5TON-RM33	13	18613	M	1	Set(s) of 4	CU	3806	208	3	50		2.0362	0.3294	6,130
47	RTU-5TON-RM34	13	18613	M	1	Set(s) of 4	CU	3806	208	3	100		4.0724	0.1971	3,670
48	RTU-5TON-RM21	13	18613	M	1	Set(s) of 4	CU	3806	208	3	115		4.6833	0.1760	3,275
49	RTU-5TON-RM32	13	18613	M	1	Set(s) of 4	CU	3806	208	3	75		3.0543	0.2467	4,591
50	RTU-5TON-RM35	13	18613	M	1	Set(s) of 4	CU	3806	208	3	80		3.2579	0.2349	4,371
52	RTU-5TON-RM36	3	45478	M	1	Set(s) of 4	CU	3806	208	3	140		13.9301	0.0670	3,046
53	RTU-5TON-RM37	3	45478	M	1	Set(s) of 4	CU	3806	208	3	170		16.9152	0.0558	2,539
54	RTU-5TON-RM38	3	45478	M	1	Set(s) of 4	CU	3806	208	3	110		10.9451	0.0837	3,807
55	RTU-5TON-RM39	3	45478	M	1	Set(s) of 4	CU	3806	208	3	140		13.9301	0.0670	3,046
56	RTU-5TON-RM40	3	45478	M	1	Set(s) of 6	CU	2425	208	3	120		18.7398	0.0507	2,304
57	RTU-5TON-STAGE	3	45478	M	1	Set(s) of 8	CU	1557	208	3	70		17.0257	0.0555	2,523
58	RTU-10TON-KITCHEN	3	45478	M	1	Set(s) of 4	CU	3806	208	3	140		13.9301	0.0670	3,046
59	RTU-12.5TON-CAFE A	3	45478	M	1	Set(s) of 3	CU	4774	208	3	85		6.7427	0.1292	5,874
60	RTU-12.5TON-CAFE B	3	45478	M	1	Set(s) of 3	CU	4774	208	3	40		3.1730	0.2396	10,898
61	RTU-4TON-RM2	4	4762	M	1	Set(s) of 4	CU	3806	208	3	135		1.4065	0.4155	1,979
62	RTU-4TON-RM4	4	4762	M	1	Set(s) of 4	CU	3806	208	3	100		1.0418	0.4898	2,332
63	RTU-5TON-RM1	4	4762	M	1	Set(s) of 4	CU	3806	208	3	160		1.6669	0.3750	1,785
64	RTU-5TON-RM3	4	4762	M	1	Set(s) of 4	CU	3806	208	3	110		1.1460	0.4660	2,219
65	RTU-2TON-PRINC MEDIA	14	18613	M	1	Set(s) of 10	CU	981	208	1	170		26.8598	0.0359	668
66	RTU-2TON-RM25	14	18613	M	1	Set(s) of 10	CU	981	208	1	70		11.0599	0.0829	1,543
67	RTU-5TON-RM18	13	18613	M	1	Set(s) of 4	CU	3806	208	3	96		3.9095	0.2037	3,791
68	RTU-5TON-RM19	13	18613	M	1	Set(s) of 4	CU	3806	208	3	100		4.0724	0.1971	3,670
69	RTU-5TON-RM17	13	18613	M	1	Set(s) of 4	CU	3806	208	3	76		3.0950	0.2442	4,545